



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,530	09/29/2003	George Inness	IL920030024US1	1831

7590 05/17/2007
Stephen C. Kaufman
Intellectual Property Law Dept.
IBM Corporation
P.O. Box 218
Yorktown Heights, NY 10598

EXAMINER

DHINGRA, PAWANDEEP

ART UNIT	PAPER NUMBER
----------	--------------

2625

MAIL DATE	DELIVERY MODE
-----------	---------------

05/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/673,530

Applicant(s)

INNESS ET AL.

Examiner

Pawandeep S. Dhingra

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/11/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawing Objections

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the complete features of claims 7 (converting speech to text and prosody), 9 (processor), and 13-14 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 15-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claims 15-18, the "computer readable medium," in accordance with paragraphs 0049 and 0056 of applicant's specification, may be an "optical media" (i.e. a electromagnetic signal). This subject matter is not limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter. Instead, it includes a form of energy. Energy does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or more substances to constitute a composition of matter. See Interim Guidelines on 35 USC 101, Annex IV: Computer-Related Nonstatutory Subject Matter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

Art Unit: 2625

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 8-12, and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Bhaskaran et al., US 2004/0141630.

Re claim 1, Bhaskaran et al. discloses a picture, comprising: a hard-copy medium (see paragraphs 0003 & 0033); and pigment (i.e. audio augmented image data, see element 122 in figure 3), imprinted on the hard-copy medium so as to define an image incorporating markings that are substantially imperceptible to an unaided eye of a human viewer and that encode audio data associated with the image (see figure 3, and paragraphs 0003, 0033, 0036-0037).

Re claim 2, Bhaskaran further discloses the pigment is imprinted on the hard-copy medium so as to define dots (i.e. halftone dots or pixels) of varying sizes (i.e. modifying) within respective cells (i.e. block or patch) (see paragraphs 0034-0035), and wherein the audio data (i.e. embedding) are encoded in the picture by varying respective positions of the dots within the respective cells (see figure 9, and paragraphs 0048-0052).

Re claim 3, Bhaskaran further discloses a method for encoding information (see paragraph 0032), comprising: capturing an image of a subject so as to generate image data (see element 108, figure 3; paragraph 0036); receiving an audio input associated with the subject so as to generate audio data (see element 106, figure 3; paragraph 0036) (*note that the digital cameras comprising a microphone for capturing an image,*

and receiving an audio input for generating image and audio data are well known in the art and are admitted as prior art by the applicant in paragraphs 0005 and 0045); and printing a picture of the subject responsively to the image data (see element 128, figure 3; paragraph 0036-0037), while encoding the audio data using markings (i.e. dots, see paragraph 0038) in the printed picture that are substantially imperceptible to an unaided eye of a human viewer (see paragraph 0037).

Re claim 4, Bhaskaran further discloses capturing the image comprises photographing the image using an electronic imaging camera (see paragraph 0036), and wherein receiving the audio input comprises recording the audio input using a microphone coupled to the camera (see paragraph 0036) *(Note that the digital cameras comprising a microphone for capturing an image, and receiving an audio input for generating image and audio data are well known in the art and are admitted as prior art by the applicant in paragraphs 0005 and 0045).*

Re claim 5, Bhaskaran further discloses printing the picture comprises printing a halftone picture comprising dots of varying sizes within respective cells (see paragraphs 0034-0035), and wherein encoding the audio data comprises varying respective positions of the dots within the cells responsively to the audio data (see figure 9, and paragraphs 0048-0052).

Re claim 6, Bhaskaran further discloses detecting and decoding (i.e. extracting) the markings (i.e. audio data) in the printed picture (see paragraphs 0013-0017, and 0036), and generating an audio output responsively to the decoded markings (see claim

2, and paragraph 0036, note that as mentioned in paragraph 0036 that the *"Display device 116b represents a display device configured to display a hardcopy, e.g., a printout, of audio augmented image data 122, wherein the audio data is visually imperceptible"* and *"Audio augmented image data 122 is then transmitted to a display device for presentation or printout. Display device 116a represents a display device configured to display a softcopy, e.g., an electronic copy viewable on a display screen while the audio data is played back, of audio augmented image data 122"*, paragraph 0036).

Re claim 8, Bhaskaran further discloses scanning a picture comprising an image and incorporating in the image markings that are substantially imperceptible to an unaided eye of a human viewer (see element 238 in figure 12, and paragraphs 0034-0038) and that encode audio data associated with the image; detecting and decoding the markings in the scanned picture (see element 238 in figure 12, and paragraphs 0034-0038 & 0066-0067); and generating an audio output responsively to the decoded markings (see claim 2, and paragraph 0036, note that as mentioned in paragraph 0036 that the *"Display device 116b represents a display device configured to display a hardcopy, e.g., a printout, of audio augmented image data 122, wherein the audio data is visually imperceptible"* and *"Audio augmented image data 122 is then transmitted to a display device for presentation or printout. Display device 116a represents a display device configured to display a softcopy, e.g., an electronic copy viewable on a display screen while the audio data is played back, of audio augmented image data 122"*, paragraph 0036).

Re claim 9, Bhaskaran further discloses apparatus for encoding information (see figure 3), comprising: an image capture device (i.e. digital camera, see paragraph 0036), which is arranged to capture an image of a subject so as to generate image data (see paragraph 0036); a processor, which is coupled to receive audio data associated with the subject (see paragraph 0036, note that it is inherent and well known in the art that the digital camera has a processor inside it for performing the audio and image related functions) (see also paragraph 0068), and which is arranged to generate a composite image (i.e. audio augmented image data) of the subject comprising the image data, while encoding the audio data in the composite image using markings that are substantially imperceptible to an unaided eye of a human viewer (see paragraphs 0036-0037); and a printer (see element 128, figure 3), which is arranged to print a picture of the subject comprising the encoded audio data responsively to the composite image (see figure 3, and paragraphs 0036-0037).

Re claim 10, Bhaskaran further discloses the image capture device (i.e. digital camera) comprises an electronic imaging camera (i.e. digital camera), which further comprises a microphone for capturing the audio data (see paragraphs 0036 & 0066, note that it's inherent that the camera has a microphone in order for the camera to capture the audio data).

Re claim 11, Bhaskaran further discloses the picture comprises a halftone picture comprising dots of varying sizes within respective cells (see paragraphs 0034-0035, 0039), and wherein the processor (see figure 3) is arranged to vary respective positions

of the dots within the cells so as to encode the audio data (see figure 9, and paragraphs 0039, 0048-0052).

Re claim 12, Bhaskaran further discloses a scanner (see paragraph 0038), which is arranged to detect the markings in the printed picture (see figure 4, and paragraph 0038), so as to permit an audio output to be generated responsively to the markings (see claim 2, and paragraph 0036, note that as mentioned in paragraph 0036 that the *"Display device 116b represents a display device configured to display a hardcopy, e.g., a printout, of audio augmented image data 122, wherein the audio data is visually imperceptible"* and *"Audio augmented image data 122 is then transmitted to a display device for presentation or printout. Display device 116a represents a display device configured to display a softcopy, e.g., an electronic copy viewable on a display screen while the audio data is played back, of audio augmented image data 122"*, paragraph 0036).

Re claim 14, Bhaskaran further discloses a scanner (see paragraph 0038), which is arranged to scan a picture comprising an image incorporating markings that are substantially imperceptible to an unaided eye of a human viewer and that encode audio data associated with the image (see element 238 in figure 12, and paragraphs 0034-0038, 0066-0067); a processor (see figure 3), which is arranged to detect and decode the markings in the scanned picture so as to recover the audio data from the picture (see element 238 in figure 12, and paragraphs 0034-0038, 0066-0067); and an audio speaker, which is coupled to the processor so as to play the recovered audio data (see paragraphs 0036 & 0066, note that it's inherent that the microphone is coupled to the processor in order for the playback the audio data, also note that as mentioned in

paragraph 0036 that the *"Display device 116b represents a display device configured to display a hardcopy, e.g., a printout, of audio augmented image data 122, wherein the audio data is visually imperceptible"* and *"Audio augmented image data 122 is then transmitted to a display device for presentation or printout. Display device 116a represents a display device configured to display a softcopy, e.g., an electronic copy viewable on a display screen while the audio data is played back, of audio augmented image data 122"*, paragraph 0036) (see also paragraph 0068).

Regarding claims 15-18, they are interpreted and thus rejected for the reasons set forth above in the rejection of claims 3, 5-6, and 8 respectively, since claims 15-18 disclose a computer readable medium of instructions for carrying out the method (a software product) that corresponds to the encoding and recovering information method of claims 3, 5-6, and 8, thus the computer implemented method is inherent and arguments made for claims 3, 5-6, and 8 are applicable for claims 15-18 respectively.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 & 13 are rejected under 35 U.S.C. 103 as being unpatentable over Bhaskaran et al., US 2004/0141630 in view of Saindon et al., US 2002/0161579 further in view of Lenir et al., US 2004/0107107.

Re claim 7, Bhaskaran further discloses the audio input comprises speech (see paragraph 0049, note that human voice recorded by the camera microphone is referred as speech).

Bhaskaran fails to disclose that receiving the audio input comprises converting the speech to at least one of text and prosody of the speech, and wherein encoding the audio data comprises encoding the at least one of the text and the prosody.

Saindon et al. discloses that receiving the audio input (see abstract) comprises converting the speech to at least one of text (see abstract and paragraph 0012), and wherein encoding the audio data comprises encoding the at least one of the text (see paragraph 0024-0028).

Lenir et al. discloses converting the speech to prosody (i.e. utterance) of the speech (see abstract and paragraph 0051), and wherein encoding the audio data comprises encoding the prosody (see abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify the method and apparatus for augmenting a digital image with audio data as disclosed by Bhaskaran to include the speech to text converter as taught by Saindon and speech processing process as taught by Lenir in order to *"provides audio to text conversion with high accuracy in short periods of time"* as taught by Saindon in paragraph 0008, and to provide a method for processing speech utterance as taught by Lenir in abstract & paragraph 0008.

Re claim 13, claim 13 recites identical features, as claim 7, except claim 13 is an apparatus claim. Thus, arguments made for claim 7 are applicable for claim 13.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McIntyre et al, US 6,102,505, see whole document.

Kanevsky et al., US 6,687,383, see whole document.

Bhaskaran et al., US 6,064,764, see whole document.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pawandeep S. Dhingra whose telephone number is 571-270-1231. The examiner can normally be reached on M-F, 9:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler Lamb can be reached on 571-272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Art Unit: 2625

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pd.

Pd.
May 8, 2007


TWYLER LAMB
SUPERVISORY PATENT EXAMINER